NATURAL RESOURCES CONSERVATION SERVICE
PACIFIC BASIN AREA
CONSERVATION PRACTICE STANDARD

CONTOUR FARMING

(Hectare, Acre)
CODE 330

DEFINITION

Tillage, planting, and other farming operations performed across the slope.

PURPOSES

- To reduce sheet and rill erosion.
- To reduce transport of sediment and other water-borne contaminants.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies on sloping land where crops are grown.

Although this practice may be applicable on steep slopes and/or in areas with higher EI values, it will be less effective in achieving the intended purpose(s) of the practice on fields with these characteristics. The practice is not well suited to rolling topography having a high degree of slope irregularity. This practice has little impact on reducing erosion on slopes greater than 20 percent.

CRITERIA

Criteria Applicable to All Purposes.

Minimum Row Grade

Row grades for soils with slow to very slow infiltration rates (Hydrologic soil groups C or D), or for crops sensitive to periods of ponded water of less than 48 hours will be designed with positive row drainage of not less than 0.5 percent. Outlets for all systems designed with positive row drainage shall be stable and non-erosive.

Maximum Row Grade

The contour row grade shall be aligned as closely as possible to the contour. The maximum grade of contour rows shall not exceed 2 percent or up to 3 percent for the last 150 ft of a contour row provided a managed stable outlet, as defined by these Pacific Basin standards, Grassed Waterway (412), Field Border (386) or Lined Waterway or Outlet (468) is maintained.

Headlands or end rows that are steeper than the maximum row grade criteria stated in the previous paragraph shall have a cover-management condition no greater than 3. (Cover-Management Conditions are described in the Pacific Basin RUSLE handbook, FOTG, Section I – Erosion Prediction).

Minimum Ridge Height

A moderate ridge height (3-4 inches) shall be left after tillage and/or planting operations when cover-management conditions 4-7 are present. A low ridge height (2-3 inches) may be left after planting when surface cover is 75 percent or greater.

Critical Slope Length

A contour farming layout shall not occur on a hill slope that is longer than the critical slope length, unless supported by other practices that either reduce slope length below critical (e.g., terraces or diversions) or reduce overland flow velocities. Increasing residue cover or roughness that change the vegetative cover management conditions can decrease overland flow velocities.

The computation of critical slope length shall be determined using approved erosion prediction technology (The RUSLE handbook issued for the Pacific Basin is approved erosion prediction technology).

Stable Outlets

Redirected runoff shall be delivered to stable outlets, such as grassed waterways, underground outlets for terraces or

diversions, water and sediment control basins, or field borders.

CONSIDERATIONS

Prior to design and layout, obstruction removal or changes in field boundaries or shape should be considered where feasible, to improve the effectiveness of the practice and the ease of performing farming operations.

If using ridge-till on the contour, avoid crossing over ridged rows at correction areas. Consider sod turn strips if correction areas are unavoidable.

The width of correction areas, and the distance between baselines, should be adjusted for equipment working widths.

Ridge height criteria may not be met with some no-till/strip-till practices. In these situations align these practices across steep slopes to avoid runoff from concentrating in the row.

There are several factors that impact the effectiveness of contour farming to reduce soil erosion. These factors include: 10-year EI value, ridge height, furrow grade, slope steepness, soil hydrologic group, cover and roughness, and the critical slope length. Cover and roughness, row grade, and ridge height can be influenced by management and provide more or less benefit depending on design.

PLANS AND SPECIFICATIONS

Specifications for establishment and operation of this practice shall be prepared for each field according to the Criteria, Considerations, and Operation and Maintenance described in this standard. Specifications shall be recorded using approved specification sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

OPERATION AND MAINTENANCE

Perform all tillage and planting operations parallel to terraces, diversions, buffer strip or vegetative barrier boundaries where these practices are used, provided the applicable row grade criteria are met. Where these practices are not present, maintain contour markers on grades that, when followed during establishment of each crop, will maintain crop rows at designed grades. Contour markers may be field boundaries on the contour, a crop row left untilled near or on an original contour baseline, or other readily identifiable, continuous, lasting marker. All tillage and planting operations shall be parallel to the established marker. If a marker is lost, re-establish a contour baseline within the applicable criteria set forth by this standard prior to seedbed preparation for the next crop.

Ridge height may vary throughout the year as a result of tillage, planting, some harvest operations, bed-throw, row cultivation, and weathering.

Where field operations begin to converge between two non-parallel contour baselines, establish a correction area that is either permanently in sod, established to an annual close-grown crop, or is in cover-management condition 3.

Where contour row curvature becomes too sharp to keep machinery aligned with rows during field operations, establish sod turn strips on sharp ridge points or other odd areas as needed.

Ridge tops may be planted to row crops if row grades are within limits. These ridge tops should be planted last and harvested first.